

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-000124**Date Inspected:** 16-Apr-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Benicia, California**CWI Name:** Mike Johnson**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Procedure Qualification Record (PQR) Test**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector Robert Cuellar is present at the Ironworkers Apprenticeship Training Facility as requested by American Bridge/ Fluor for the continuing purpose of witnessing Procedure Qualification Record tests. The following items have been observed,

1) Today's observation is of the continuation of a procedure qualification record (PQR) test that is identified as ABF-PQR-001-2, second attempt. This PQR test commenced on Friday 04-13-2007 and was originally witnessed by Caltrans QA Inspector Mr. Robert Mertz. The Caltrans QA Inspector observed that this PQR test is being attempted in the flat (1G) position and represents an AWS D1.5 single vee groove using 25 mm thick steel plate and a 10mm thick x 75mm wide steel backing bar. After the application of four (4) flux cored arc welding (FCAW) filler passes to this PQR test plate assembly, the welder and the Quality Control Inspector elected to terminate testing of this PQR due to slag inclusions that were discovered during the course of grinding between weld passes. It was observed that slag inclusions were present throughout the entire depth of the applied weld layers. A new PQR test plate assembly followed and is identified as the same ABF PQR identification number, and is now the third attempt.

2) The Caltrans QA Inspector observed the following personnel present, Smith Emery Certified Welding Inspector Mr. Michael Johnson, ABF Welding Superintendent Mr. Tommy Gibson and also welders Mr. Juan Andrade Ortega and Dan Gordon.

3) ABF-PQR-001-2 (Second Attempt)-The Caltrans QA Inspector visually observed that the welder Mr. Dan Gordon applied four flux cored arc welding (FCAW) filler weld passes. After the completion of the fourth weld pass, the welder performed grinding of the filler metal and elected to grind a significant portion of the PQR test plate assembly due to visually observed slag inclusions. The welder and the Quality Control Inspector elected to terminate the welding of this PQR test due to a significant amount of slag inclusions observed within the applied

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filler passes. A subsequent PQR test followed this attempt as listed below.

4) ABF-PQR-001-2 (Third Attempt)- The Caltrans QA Inspector observed and recorded welding parameters for the application of four (4) flux cored arc welding passes to this PQR test plate assembly. This PQR test was not completed on this date and is scheduled to resume on Tuesday 04-17-2007.

5) Shielding Gas Certificate of Conformance for Carbon Dioxide and Dual Shielding Gas- Mr. Tommy Gibson provided Caltrans with certificates of conformance for carbon dioxide industrial grade dated 2-17-2006 and also for dual gas shielding for 90 percent argon and 10 percent carbon dioxide dated 04-22-2005.

For specific welding parameter values recorded during this procedure qualification record test see the Caltrans TL-6032 generated for this date. Digital pictures that support today's observations are included within the TL-6032.

### Summary of Conversations:

1) Mr. Tommy Gibson voiced that PQR testing would resume on Tuesday 04-17-2007.

2) The welder, Mr. Dan Gordon voiced to the Quality Control Inspector Mr. Mike Johnson that he is having difficulty welding with the welding parameters being attempted. 3) The Caltrans QA Inspector brought it to the attention of Mr. Tommy Gibson that the shielding gas certificates of conformance are dated beyond a year from the PQR testing dates and also such shielding gas certificates of conformance are not specific to a batch or a cylinder but are annual general certificates of conformance. Mr. Tommy Gibson voiced that he would attempt to gain more current certificates of conformance for shielding gases scheduled for use for the qualification of PQR tests.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Cuellar,Robert	Quality Assurance Inspector
<b>Reviewed By:</b>	Smith,Ryan	QA Reviewer

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